

EXPLANATION OF SIGNIFICANT DIFFERENCES NO. 1

METAL BANK SUPERFUND SITE

Philadelphia
Philadelphia County, Pennsylvania

September 2000



I. INTRODUCTION

Site Name: Metal Bank Superfund Site

Site Location: Philadelphia, Philadelphia County, Pennsylvania

Lead Agency: U.S. Environmental Protection Agency, Region III
(EPA or the Agency)

Support Agency: Pennsylvania Department of Environmental Protection (PADEP)

The Metal Bank Superfund Site ("the Site") is a former scrap metal and transformer salvage facility located at 7301 Milnor Street in an industrial section of Northeast Philadelphia, Pennsylvania. The Site is bordered by Cottman Avenue on the west; Milnor Street on the north; Safe Disposal Systems (an appliance recycling company) and Morris Iron & Steel Company (a metal salvage yard) on the east; and the Delaware River on the South. To the west of the Site is St. Vincent's School, which is a school and temporary shelter for abused children.

This Explanation of Significant Differences ("ESD") presents the details of a change to the remedy selected in the December 31, 1997 Record of Decision ("ROD"). New information became available following the issuance of the ROD during the Preliminary Design Investigation which gave rise to the need for an ESD. The new information and EPA's conclusions are discussed in more detail below.

This ESD is issued in accordance with Section 117 (c) of the Comprehensive Environmental Response, Compensation and Liability Act, as amended by the Superfund Amendments and Reauthorization Act of 1986 (CERCLA), 42 U.S.C. § 9617(c), and 40 C.F.R. § 300.435(c)(2)(i). The differences in this ESD significantly change, but do not fundamentally alter, the remedy selected in the ROD with respect to scope, performance, or cost. This document will be incorporated into the Administrative Record maintained for this Site, as required by the NCP Section 300.825(a)(2).

The Administrative Record is available for review at:

NE Branch of Philadelphia Library
2228 Cottman Avenue
Philadelphia, PA 19149
(215) 685-0522

Hours: Mon-Wed 10 AM - 9 PM
Thurs-Sat 10 AM - 5 PM

U.S. EPA Region III
1650 Arch Street
Philadelphia, PA 19103
Contact: Anna Butch

Hours: 8 AM to 4 PM
(215) 814-3157

II. SUMMARY OF SITE HISTORY, CONTAMINATION, AND SELECTED REMEDY

The Metal Bank Superfund Site is the location of a former scrap metal storage facility and from approximately 1968 until 1973, transformer salvage operations were conducted at the Site. Transformer oil was drained on a concrete pad which was connected to an underground storage tank. Operations at the facility resulted in PCB contamination of the soil, groundwater, and sediment at the Site. From 1973 to 1985, storage of scrap metal continued at the Site, but transformer salvage operations had been discontinued. All operations were discontinued by 1985 and presently, the Site remains inactive.

The Metal Bank property includes two areas: the southern area which consists of approximately six acres of open area that was used for scrap metal recovery; and the northern area which consists of a steel building, a courtyard, and a parking area. The building is locked and a 6-foot fence is maintained around the southern area of the property except along the river to limit access.

Site Enforcement Activities

The following is a chronology of various activities, including enforcement actions, that have taken place since the ROD was issued in December 1997. A chronology of pre-ROD enforcement actions can be found in the ROD.

On June 26, 1998, after attempts at negotiating a Consent Decree to implement the remedy failed, EPA issued a Unilateral Administrative Order to thirteen parties consisting of generators and owner/operators at the Site. Subsequent to issuance of the UAO, the PRP Group and the Owner Group submitted separate contractor proposals for performance of the RD. EPA subsequently notified the groups on August 14, 1998, that they had until August 28, 1998, to propose a single remedial design professional; otherwise, EPA would select the remedial design professional. On August 28, 1998, EPA received separate responses from each group. On September 18, 1998 EPA accepted Ogden Environmental and Energy Services/Hart Crowser, Inc to perform the remedial design.

On November 4, 1998, the PRP Group submitted the Remedial Design Workplan. On August 25, 1999, EPA approved the RD Workplan. From September until November, the PRP Group conducted the pre-design investigation and submitted the PDI Report on January 18, 2000. On March 6, 2000, the PRP Group submitted the Preliminary (30%) Design. Based upon the findings of the PDI, the PRP Group proposed changes to the selected remedy. Additionally, in July 2000, the Owner Group conducted an LNAPL Investigation in support of litigation and submitted the findings of the investigation in September 2000.

Contamination and Selected Remedy

The remedy addresses PCB contaminated soil, sediment, surface water, and groundwater at the Site and includes the following components:

- Installation of an oil collection system consisting of a sheet pile wall around the southern and western perimeter of the property; interceptor trenches with oil-water separators and sump pumps, or similar collection devices, inside the wall to prevent oil from migrating to the Delaware River;
- Installation of temporary cofferdams prior to soil/sediment excavation to minimize transport of contamination into the Delaware River;
- Excavation of contaminated soil within the Courtyard Area within two feet of the surface where polychlorinated biphenyl ("PCB") concentrations exceed 10 ppm; excavation of contaminated subsurface soil in the Southern Portion of the Metal Bank property where PCB concentrations exceed 25 ppm; excavation of contaminated sediments within 100 feet of the Metal Bank property and within four feet of the surface of the river bed; and excavation of sediments beyond 100 feet of the Metal Bank property which have PCB concentrations exceeding 1 ppm if determined by EPA to be appropriate and feasible.
- Disposal of contaminated soil and sediments that are not hazardous in the following manner: (1) if PCB concentrations are less than 25 ppm, backfill material on the Southern Portion of the property ; (2) if PCB concentrations are between 25 and 50 ppm, dispose in a landfill permitted in accordance with the Resource Conservation and Recovery Act ("RCRA") Subtitle D or Pennsylvania Residual Waste Management Regulation requirements; or (3) if PCB concentrations are 50 ppm or greater, dispose at a Toxic Substances Control Act ("TSCA") landfill;
- Disposal of contaminated soils and sediments that are hazardous in the following manner: (1) if PCB concentrations are less than 50 ppm, dispose at a facility in compliance with RCRA Subtitle C or Pennsylvania Hazardous Waste Management Regulations; or (2) if PCB concentrations are 50 ppm or greater, dispose at a TSCA landfill;

- Removal and disposal of the underground storage tank and its contents from the Southern Portion of the property;
- Backfilling of excavated areas in the Delaware River and Courtyard Area with clean sediment and soil. Installation of a 12-inch soil cover over the entire Courtyard Area, and establishment of an erosion-resistant vegetative cover;
- Backfilling of excavated areas in the Southern Portion of the property with excavated soils and sediments with PCB concentrations less than 25 ppm, installation of a 24-inch soil cover over the entire Southern Portion, and establishment of an erosion-resistant vegetative cover;
- Restriction of access by installing and maintaining a fence around the perimeter of the Metal Bank property;
- Posting signs prohibiting consumption of fish caught in the Delaware River in the vicinity of the Site;
- Restrictions on the deed to the property to prevent future residential or agricultural use of the Site, use of the groundwater, and intrusive activities into the subsurface soils below the water table in the Southern Portion of the property;
- Additional investigation to determine whether dense non-aqueous phase liquids ("DNAPLs") are present at the Site and whether the storm sewer system in the vicinity of the Site is contaminated; and
- Monitoring of groundwater, the Delaware River, and the Baxter Water intake.

III. DESCRIPTION OF SIGNIFICANT DIFFERENCES AND BASIS FOR CHANGE

The PRP have requested changes to the remedy in the following areas:

- Excavation of LNAPL in lieu of oil collection system
- Sheet Pile Wall Modifications
- Excavation of sediments based on a 1 ppm action level
- Elimination of cofferdam and use of turbidity curtains
- Elimination of soil monitoring program and use of geotextile layer

Excavation of LNAPL in lieu of Oil Collection System

EPA is not making any changes to the requirement in the ROD for the Oil Collection System in this ESD. This issue is being considered separately in a Focused Feasibility Study. If EPA determines this change is warranted, it will be addressed in a future ESD or ROD Amendment.

Sheetpile Wall Modifications

Section IX.C of the ROD states, "*Prior to excavation of soil from the Southern Portion of the property, a sheet pile wall shall be installed around the southern and western perimeter of the property adjacent to the Delaware River to prevent erosion of fill materials into the river and facilitate installation of the oil collections system.*"

The ROD performance standard for the sheetpile wall states that it "shall be installed around the southern and western perimeter of the property adjacent to the Delaware River to prevent erosion of fill materials into the river and facilitate the oil collection system". This equates to approximately 1200 liner feet of sheet pile wall. The PRPs have petitioned the Agency to optimize the wall in two ways: 1) limit the length of the sheet pile wall to areas where LNAPL was identified in the Pre-Design Investigation which is approximately 700 linear feet and 2) placement of the sheetpile wall at the toe of the riprap area.

1) **Sheet pile Wall Length:** The length of the sheet pile wall is still under review by the Agency and must be considered in conjunction with the oil collection. As discussed above, EPA is considering a change to the remedy regarding the oil collection system. Therefore, if EPA determines a change is warranted it will be addressed in a future ESD or ROD Amendment.

2) **Sheet pile Wall Placement:** Section IX.B.5 of the ROD states, "*Oversized materials such as boulders in the Riprap Area and debris from the Southern Portion shall be decontaminated, using steam cleaning or other equivalent method, in order to reduce PCB concentration on its surfaces.*"

EPA has determined that the remedy should be modified to allow the sheet pile wall to be placed at the toe of the riprap. This will allow the oversized material to be contained behind the sheetpile wall and eliminate the need for decontamination of the riprap. The cleaning of contaminated riprap would be difficult based on concrete adsorption of PCB contamination and would also be difficult to implement based on the large, irregular, and unmanageable pieces of concrete fortifying the slopes of the site, particularly along the Delaware River. The goal of the remedy was to reduce PCB contamination on the surface of the oversized material in order to prevent the migration of the contamination to the river. This goal can still be accomplished with this modification by locating the sheetpile wall at the toe of the slope. This would contain the surface PCB contamination on the oversized material and prevent migration of PCBs to the river.

Sediment Cleanup level

After issuance of the ROD, the Cottman Avenue PRPs requested clarification by EPA on the performance standards for the sediment cleanup in the Delaware River. EPA has determined that inconsistencies in the ROD language may have lead to confusion with respect to this performance standard.

In the Description of the Alternatives, Section VII of the ROD the following is written, "*An estimated 11,750 cubic yards of sediments with PCB concentrations exceeding 1 ppm within approximately 100 feet of the Metal Bank property boundary would be excavated and dewatered.*"

In the Selected Remedy and Performance Standards, Section IX of the ROD, the area requiring cleanup is described as "*Sediments within 100 feet of the Metal Bank property and within four feet of the surface of the river bed shall be excavated. Sediments beyond 100 feet of the Metal Bank property which have PCB concentrations exceeding 1 ppm shall be excavated if EPA determines during remedial design that such removal would be both appropriate and feasible. Excavation of these sediments shall be performed after completion of soil excavation activities in the Southern Portion of the property. The extent of excavation shall be further defined during the remedial design and approved by EPA.*"

EPA has determined that the remedy should be modified to require that sediment with PCB contamination greater than 1 ppm within approximately 100 feet of the Metal Bank Site and within four feet of the surface of the river bed shall be excavated. Sediments beyond 100 feet of the Metal Bank Site which have PCB concentrations exceeding 1 ppm shall be excavated if EPA determines during remedial design that such removal would be both appropriate and feasible. This change is contingent on the assumption that sediment with PCB contamination above 1 ppm is clearly delineated during Remedial Design.¹ Based on preliminary design sampling, it has been determined that excavating sediment greater than 1 ppm PCBs will result in the removal of more sediments that exceed the cleanup level, while leaving sediments below the cleanup level undisturbed.² This change will still meet the original intent of the ROD, to remediate sediment with PCB contamination above 1 part per million.

1. EPA's original intent was to remove sediment with PCB contamination above 1 ppm. When the ROD was written it was assumed that it would be more cost effective to remove all sediments within 100 feet of the property, the area where the majority of samples were found to exceed 1 ppm PCBs during the RI, rather than to sample throughout the area and remove only those sediments where PCB contamination exceeded 1 ppm.

2. An area of sediment located upstream of the Metal Bank property has been found to be contaminated with PCBs above 1 ppm.

Cofferdam Construction

The ROD requires the construction of a temporary cofferdam so that sediments can be dewatered prior to excavation. The goal of the cofferdam was to excavate sediments in dry conditions to prevent migration of PCB contaminated sediments during the excavation and backfilling.

During the pre-design investigation, Ogden/Hart Crowser, Inc. evaluated the feasibility of constructing a temporary cofferdam in the Delaware River. Ogden/Hart Crowser collected geotechnical and elutriate data in the Delaware River. The geotechnical data revealed that the Delaware River bed consists of a relatively thick layer of poorly consolidated silts and clays overlying thin sands and gravels as well as shallow bedrock elevations. Due to these conditions, pile embedment depths would be significantly limited and the structure would not be stable. In order to construct a stable cofferdam, a cellular structure would be required. The cellular cofferdam required would be constructed with interlocking sheets forming individual cells approximately 30 to 50 feet in width. The individual cells would then be filled with fill material to create a gravity-anchored structure to withstand the potential water pressure during flood stages. Installation of this large structure would take 6 to 12 months while the excavation of the sediment would take only 6 to 12 weeks. Construction of such a large structure would have a negative impact on the river.

Additionally, the data collected indicate that PCBs are not detected in the elutriate water and minimal PCBs are detected in the elutriate sediment. These data, which were not available when the ROD was developed, indicate that excavation through the water column will have less of an adverse impact on the surrounding environment than construction of a cofferdam.

EPA has determined that the remedy should be modified to allow excavation of the sediments without dewatering the area of excavation. EPA's goal, to prevent migration of PCB contaminated sediments during excavation and backfilling, can be achieved with the use of low-impact excavation equipment in combination with turbidity curtains. A turbidity curtain around the entire excavation area and an inner curtain around the work area is a less disruptive technology that if properly engineered and installed, will protect the environment from the release or migration of PCB contamination. During excavation, monitoring shall be performed downgradient from the sediment area to monitor sediment transport. The remedial design shall specify levels of sediment transport that require dredging to be temporarily halted or to be modified. These levels shall be submitted to EPA for approval during design.

Soil Monitoring Program

Section IX.G.1 of the ROD states that *"a soil monitoring program shall be developed during remedial design to monitor the soil cover for evidence of upward migration of contaminants in groundwater caused by flooding conditions that may raise the water table"*.

The PRPs have proposed the use of a lightweight geotextile to prevent the migration of soil particles during potential flood conditions. This will eliminate the potential upward migration of PCB

contamination attached to soil particles. In addition, the geotextile will provide a uniform consistent barrier and will allow for verification of the 2 foot soil thickness. It will also prevent the mixing of site soils with cover soils. EPA agrees that the use of geotextile in lieu of soil monitoring will achieve the same performance standards originally intended by the ROD.

IV. SUPPORT AGENCY COMMENTS

All of the above changes to the remedy have been coordinated with representatives of PADEP pursuant to 40 C.F.R. § 300.435(c)(2). PADEP is expected to concur with the changes to the selected remedy as described in this ESD.

V. STATUTORY DETERMINATIONS

EPA has determined that the revised remedy complies with the statutory requirements of CERCLA § 121, 42 U.S.C. § 9621. Considering the new information that has been developed and the changes that have been made to the selected remedy, EPA believes that the remedy remains protective of human health and the environment, complies with Federal and State requirements that are applicable or relevant and appropriate to this Remedial Action as described in the ROD and is cost-effective.

VI. PUBLIC PARTICIPATION

This ESD and the supporting documents which contain the information which form the basis for modifying the selected remedies, have been included in the Administrative Record for this Site. The Administrative Record also includes the ROD and all documents that formed the basis for EPA's selected remedy. The Administrative Record is available for public review at the locations listed above.

A notice of availability of these documents will be published in the *Philadelphia Inquirer* in September 2000.

9/27/00

Date

Abraham Ferdas

Abraham Ferdas, Director
Hazardous Site Cleanup Division